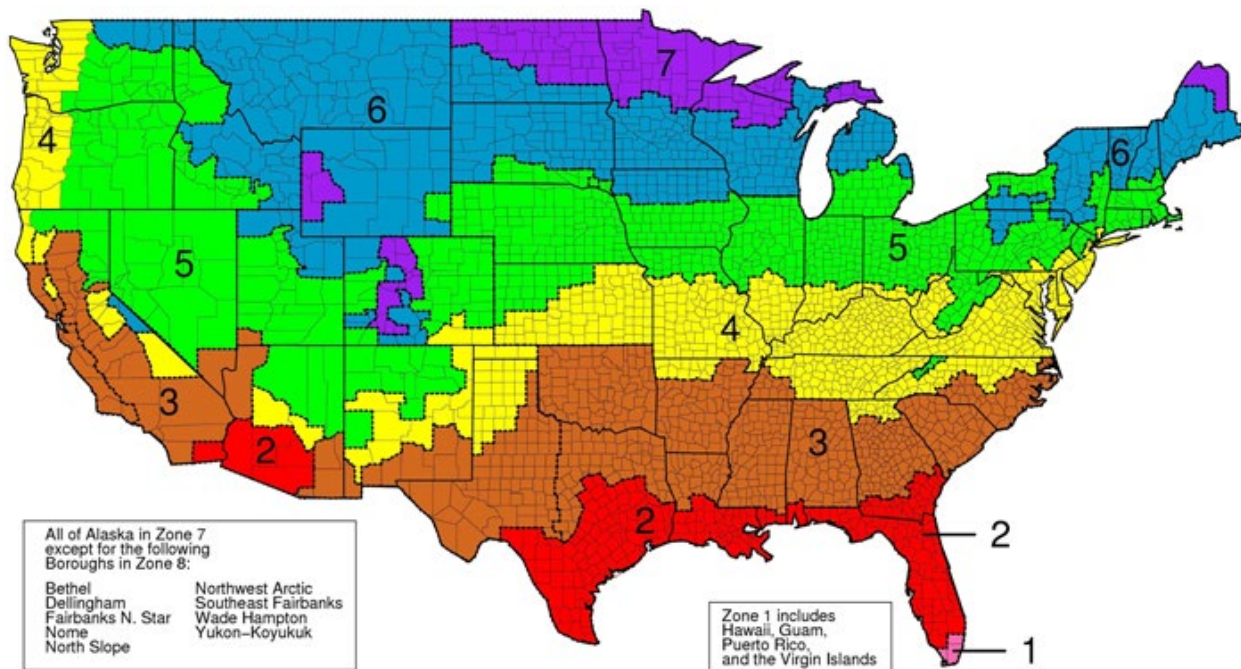


## R-Value

R-Value is a measure of insulation's ability to resist heat passing through it. The higher the R-Value the better the thermal performance of the insulation. R-Value is a number given "per inch of thickness". For example, an insulation type with an R-Value of 5 means "5 per inch of thickness". Therefore, a 1" thick layer would have an R-Value of 5; a 2" thick layer an R-Value of 10 and so on. Thickness matters!

### US Department of Energy R-Value recommendations by climate zone.



### Insulation Recommendations for New Wood-Framed Houses

Zone	Heating System	Attic	Cathedral Ceiling	Wall		Floor
				Cavity	Insulation Sheathing	
1	All	R30 to R49	R22 to R15	R13 to R15	None	R13
2	Gas, oil, heat pump	R30 to R60	R22 to R38	R13 to R15	None	R13 R19-R25
	Electric furnace					
3	Gas, oil, heat pump	R30 to R60	R22 to R38	R13 to R15	None	R25
	Electric furnace				R2.5 to R5	
4	Gas, oil, heat pump	R38 to R60	R30 to R38	R13 to R15	R2.5 to R6	R25 to R30
	Electric furnace				R5 to R6	
5	Gas, oil, heat pump	R38 to R60	R30 to R38	R13 to R15	R2.5 to R6	R25 to R30
	Electric furnace		R30 to R60	R13 to R21	R5 to R6	
6	All	R49 to R60	R30 to R60	R13 to R21	R5 to R6	R25 to R30
7	All	R49 to R60	R30 to R60	R13 to R21	R5 to R6	R25 to R30
8	All	R49 to R60	R30 to R60	R13 to R21	R5 to R6	R25 to R30

## Insulation Recommendations for Existing Wood-Framed Houses

Zone	Add Insulation to Attic		Floor
	Uninsulated Attic	Existing 3-4 Inches of Insulation	
1	R30 to R49	R25 to R30	R13
2	R30 to R60	R25 to R38	R13 to R19
3	R30 to R60	R25 to R38	R19 to R25
4	R38 to R60	R38	R25 to R30
5 to 8	R49 to R60	R38 to R49	R25 to R30
<p><b>Wall Insulation:</b> <i>Whenever exterior siding is removed</i> on an:</p> <p><b>Uninsulated wood frame wall:</b></p> <ul style="list-style-type: none"> <li>• Drill holes in the sheathing and blow insulation into the empty wall cavity before installing the new siding, and</li> <li>• Zones 3-4: Add R5 insulative wall sheathing beneath the new siding</li> <li>• Zones 5-8: Add R5 to R6 insulative wall sheathing beneath the new siding.</li> </ul> <p><b>Insulated wood-frame wall:</b></p> <ul style="list-style-type: none"> <li>• For Zones 4 to 8: Add R5 insulative sheathing before installing the new siding.</li> </ul>			

Reference: DOE/CE-0180, 2008 Insulation Fact sheet

<https://web.ornl.gov/sci/buildings/docs/factSheets/Insulation-FactSheet-2008.pdf>